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January 15, 2004

VIA ELECTRONIC MAIL AND ECFS

Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth St, SW
Washington, D.C. 20554

Re: Highland Cellular, Inc. E911 Interim Compliance Report, CC Docket No. 94-102

Dear Ms. Dortch:

Highland Cellular, LLC ("Highland"), by its attorneys, herewith files its interim E911 compliance report pursuant to the Order to Stay adopted in CC Docket No. 94-102 on October 10, 2003.[1] Highland is a Tier III CMRS carrier that had petitioned for additional relief with respect to Phase II E911 deployment. This interim report addresses each of the criteria in the Wireless Telecommunications Bureau Public Notice of June 30, 2003 in the same docket and generally follows the format set forth in that notice.[2]

By way of background, Highland has been, and remains, committed to the rural West Virginia community it serves, a fact that is demonstrated by its record on advanced services. Highland is a cellular/PCS carrier utilizing a GSM/TDMA digital transmission interface that is in the process of converting its subscriber base to GSM technology. Highland was the first carrier—by three years—in its coverage area to offer digital services. Highland's coverage is also much more comprehensive than its competitors in the counties in which Highland operates.

Highland's commitment to providing its rural subscribers with access to advanced services is also underscored by its lead in the conversion of its system, and rapid roll-out, of 2.5G GSM technology. Highland originally selected its GSM vendor in October of 2002 and was able to launch its network one year later. As a result of this product launch, Highland has seen a significant shift to the new network. At the present time, which is only 90 days from launch, 12 percent of Highland's customer base has transitioned from TDMA phones to GSM phones, and Highland

[1] Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, FCC 03-241 (2003) ("*Small Carrier Order*").

[2] "Wireless Telecommunications Bureau Provides Further Guidance on Interim Report Filings by Small Sized Carriers," CC Docket No. 94-102, DA 03-2113 (rel. June 30, 2003) ("*Interim Guidelines Notice*").

anticipates that its projected GSM subscriber base at the end of 2004 will be 50 percent. In part, this migration will be spurred by the fact that Highland's new sites are constructed as GSM-only. Indeed, already twenty percent of Highland's cell sites are new cell sites that have been constructed without TDMA support.

Importantly, Highland has been actively working with the PSAPs in its community not only with respect to E911 deployment, but also with respect to co-location and coverage issues. Most recently, Highland provided a detailed update to 5 out of the 6 PSAP directors that had filed Phase II requests on January 12, 2004. Indeed, Highland's update, which coincided with the regional West Virginia NENA meeting to which all PSAP directors had been invited, shared all of the information included with this interim report and provided a forum for the PSAPs to interact directly with Highland. The result of that meeting was that the PSAPs requested that Highland continue to keep them informed on the direction and status of Highland's Phase II implementation. Highland has agreed to provide them with e-mail updates as substantive new information is received and to schedule a meeting in the spring to discuss the recommendations which Highland anticipates making. Overall, Highland believes the PSAPs were pleased with the progress made to date and supportive of Highland's intended process. The PSAPs also supported Highland's goal of finding the best long-term solution, even if it is not the best short-term solution.

Highland has received, and is now in compliance with, Phase I requests from five of the ten PSAPs in its service area. Highland is also implementing Phase I in two additional counties that were recent acquisitions, despite the lack of a formal Phase I request to Highland. Highland has received Phase II requests from six PSAPs and has been diligent in terms of the Phase II conversion. At the present time, Highland is still reviewing several vendor and technology options. The technologies being reviewed are TDOA and TA/NMR, which are the only options that Highland has identified as being available to the GSM/TDMA network providers.

Highland has been conscientious in the E911 Phase II technology acquisition process to ensure that it has a reasonable basis for deploying a solution compliant with the FCC's requirements. To determine whether particular vendor solutions would achieve the accuracy requirements mandated under the rules, however, Highland has been required to provide voluminous technical data to its vendors. Thus, between June and November of 2003, Highland was engaged in obtaining and providing detailed network information for each vendor that, in some cases, included time-intensive network drive test analyses. Highland anticipates that this

process will continue, although as a refinements to accuracy predictions undertaken in tandem with other ongoing procurement efforts. For example, Highland has both acquired additional cell sites and constructed new GSM sites and is assembling that data for its potential technology partners. The data for those sites has not yet been factored into its vendors' analyses.

Based upon the information provided by Highland to date, the technology vendors have created detailed accuracy projection maps for Highland's review. Unfortunately, the process of calculating accuracy contours from Highland's network data has generally taken each vendor approximately three months. Thus, while Highland has received projection maps from two vendors, Highland is still waiting on accuracy projections from a third vendor and is not in a position to be able to compare relative performance of the systems. Nonetheless, Highland is currently in the process of reviewing, and conducting due diligence on, the accuracy projections it has received. To ensure the best possible result, Highland has been required to develop a working knowledge of each of the technology platforms in order to understand how performance could be improved and under what circumstances the FCC accuracy projections can be feasibly met. Highland expects that its comparison and due diligence process will take approximately three more months to fully complete.

Once Highland completes its review of the accuracy predictions for all available technology options, Highland has agreed to a meeting with the requesting PSAPs to present and discuss the available possibilities. Highland is expecting to schedule this meeting within the April/May timeframe. Following that meeting, Highland intends to move forward with network implementation. Highland notes, however, that if none of the technology options meets the FCC requirements, Highland may be compelled to seek a waiver of the rules prior to executing definitive procurement contracts.[3] Highland is projecting between 6 and 9 months to fully implement, test and launch the selected technology following contract execution.

Highland's schedule for E911 Phase II deployment is highly aggressive and Highland anticipates that it may ultimately have difficulty meeting the Phase II

[3] Should the accuracy predictions from the available vendors not meet FCC requirements, Highland would be compelled to seek a waiver. Given the potential liability consequences from failure to meet Phase II requirements—even if no vendors exist that could provided the required accuracy—Highland's entering into a long term contract for non-compliant E911 technology would be potentially disastrous.

requirements. While Highland is working diligently, there are a few factors beyond Highland's control impacting compliance:

- First, the West Virginia service area where Highland operates is a particularly challenging physical environment. Highland operates in a very mountainous and lightly populated area, as shown in Table 1. As a result of the low population density, many of the areas within Highland's service coverage receive a signal from one cell site only.[4] In order for triangulation to work, a handset must be able to receive RF signal of sufficient strength from at least 3 cell sites. Due to the mountainous terrain and cell site layout of the network, there are many areas within Highland's coverage area in which the handset is not projected to receive RF signal from the required 3 cell sites.

	POPs	Area (mi^2)	Density (POPs/mi^2)
Bland County, VA	6,898	362	19
Fayette County, WV	47,558	671	71
Greenbrier County, WV	34,438	1032	33
McDowell County, WV	26,815	540	50
Mercer County, WV	62,848	425	148
Monroe County, WV	14,746	478	31
Raleigh County, WV	79,410	613	130
Summers County, WV	12,917	365	35
Tazewell County, VA	44,508	525	85
Wyoming County, WV	25,477	506	50
	355,615	5,517	64

Table 1: Population Density for Highland Counties

Both the vendor projections and the testimony of other wireless carriers reflect the challenge faced by Highland. The initial projections from network-based vendors indicate the accuracy requirements may be met in 3 out of 10 licensed

[4] Moreover, due to the physical environment, Highland has a number of customers operating very dated analog vehicular or portable phones who are unlikely to change over to smaller handsets. Because those units typically operate at a higher transmit power and are coupled to antennas with more gain than today's handsets, a segment of Highland's rural customers prefer the enhanced coverage available through the older technology. It is anticipated that, for a number of those subscribers, the attempt by Highland to churn out dated handsets will be resisted strongly.

counties.[5] Due to the cell site layout and mountainous terrain, the remaining seven counties do not have sufficient RF signal from which to generate an accurate location. Within the 3 counties, there is a significant difference between the accuracy projections provided by the TDMA and the GSM networks.

- Second, the challenges of the environment in which Highland operates are exacerbated for Highland's TDMA network. As explained by the TDOA vendors, the 30 kHz channel provided by TDMA results in a significantly lower level of accuracy as compared to the 200 kHz channel within the GSM network. The result of this is that the TDMA network is projected to yield accuracy results roughly 20 to 30 percent worse than the GSM network in any geographic area. Because of Highland's transition to newer GSM technology, Highland will not be deploying new TDMA sites, so the level of coverage and hence the level of accuracy provided by TDMA will remain static. To date, Highland has already built roughly 20 percent more GSM coverage sites than TDMA coverage sites. Both Highland and the PSAPs, in the context of Highland's coordination efforts, have agreed that the level of accuracy provided to the TDMA customers via the TDMA network does not meet the needs of the local communities Highland serves, but it is unclear whether there is any feasible means to address those issues given the industy abandonment of the TDMA standard.

- Third, Highland, like many rural carriers, has lender constraints that limit what is economically feasible. While the company has the ability to finance what it currently believes to be the projected cost of E911 Phase II deployment, lender covenants generally require companies to achieve certain financial projections. Should the company not meet these financial projections, Highland could find itself in a situation where its lenders refuse to finance additional capital investment including the projected cost of E911 Phase II deployment.

These factors, in conjunction with the other technology issues set forth below, will make it very challenging for Highland to meet the current Phase II requirements set forth by the Commission.

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[5] Based on estimates from vendor accuracy maps, Highland believes it can achieve required accuracy for 120 square miles of Raleigh county, 75 square miles of Mercer county, and 90 square miles of Fayette county.

Should any questions arise concerning this filing, please contact the undersigned at 202.418.3182.

Sincerely,

/s/ Eric W. DeSilva

Eric W. DeSilva